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OCCUPATIONAL EDUCATION AND TRAINING FOR TOMORROW'S WORLD OF WORK. NUMBER 2, HIGH SCHOOLS.

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DESCRIPTORS- *VOCATIONAL EDUCATION, *HIGH SCHOOLS, CURRICULUM, *EXPENDITURES, *FINANCIAL SUPPORT,

THERE ARE FEWER EMPLOYMENT OPPORTUNITIES FOR UNSKILLED AND SEMISKILLED PERSONS TODAY, AS MORE OCCUPATIONS REQUIRE SPECIALIZED TRAINING. SUFFICIENT OCCUPATIONAL TRAINING OPPORTUNITIES WOULD HELP TO SOLVE THE PROBLEM, AND HIGH SCHOOL PROGRAMS OFFER ONE ALTERNATIVE. OTHER ALTERNATIVES ARE DISCUSSED IN VT 001 353, VT 001 355 - VT 001 358. IN 1963, 6 PERCENT OF THE 23,000 PUBLIC SECONDARY SCHOOLS IN THE UNITED STATES OFFERED DISTRIBUTIVE EDUCATION, 7 PERCENT OFFERED TRADE AND INDUSTRIAL EDUCATION, 36 PERCENT OFFERED VOCATIONAL AGRICULTURE, 48 PERCENT OFFERED VOCATIONAL HOME ECONOMICS, AND LESS THAN HALF OFFERED COURSES IN HOMEMAKING AND AGRICULTURE. THE TOTAL FINANCIAL EXPENDITURE FOR VOCATIONAL EDUCATION WAS 308.9 MILLION DOLLARS WITH 18 PERCENT FROM THE FEDERAL GOVERNMENT, 36 PERCENT FROM THE STATE, AND 46 PERCENT FROM LOCAL SOURCES. NO STATE IN THE NORTH CENTRAL REGION HAS A VERY HIGH PROPORTION OF SCHOOLS OFFERING A COMPLETE VOCATIONAL PROGRAM. STUDENTS IN VOCATIONAL PROGRAMS DEVOTE A PORTION OF THE DAY TO VOCATIONAL COURSES AND THE BALANCE TO ACADEMIC COURSES. GUIDANCE AND PLACEMENT SERVICES ARE GENERALLY PART OF THE PROGRAM. THE NUMBER OF PROGRAMS WHICH CAN BE OFFERED IS LIMITED BY THE AVAILABILITY OF INSTRUCTORS AND SPECIALIZED EQUIPMENT, AND THE NUMBER OF INTERESTED STUDENTS. (EM)

OCCUPATIONAL EDUCATION AND TRAINING FOR TOMORROW'S WORLD OF WORK

NO. 2

A Series of Publications by the North Central Extension Public Affairs Subcommittee on Providing Occupational Education and Training Opportunities

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PREPARING FOR LIFE'S WORK has been a primary concern of man from the beginning of time. In earlier centuries the son followed his father through the fields and to the streams in order to learn hunting and fishing. The daughter observed and helped with child care and "homemaking." These youth learned their vocations by doing. In Colonial America apprenticeships performed the same role.

Today society looks to the school systems to prepare youth for their vocations. But a high school diploma alone no longer guarantees employment. The individual must possess a marketable skill. In recent years, thousands of high school graduates have been unable to find employment largely because they lacked sufficient training. This is a marked change from the situation just a few years ago when almost any young man or woman who had finished high school could obtain employment. As difficult as it is for the high school graduate to find work, it is even more difficult for those 40 percent of our youth who drop out before completing high school. About one-third of these youth are unemployed — twice as many as among high school graduates.

Today more and more occupations require specialized training. There are fewer and fewer opportunities for employment of unskilled and semi-skilled persons, and this trend is becoming more pronounced.

The main solution to this problem is to provide sufficient occupational training opportunities to meet the basic needs of all workers in order that they may attain their maximum potential. This leaflet discusses how the alternative of providing vocational education and training in the high schools meets this challenge.

Vocational education in the high school and each of the other alternative programs discussed in this series have merit. Most communities will need more than one of these programs to meet their training needs. In order to meet these needs communities should give thoughtful attention to the high school's appropriate responsibility in preparing both youth and adults for employment.

The Purpose

The primary purpose of the high school vocational education programs is to help prepare youth and adults for a "world of work." It is to develop marketable skills. It is to help Johnny and Janie develop their talents and abilities and to prepare for their chosen occupations. It is to help the four out of ten youths who don't finish high school, the six out of ten who never go to college, and the eight out of ten who don't finish college. It is to help the person not in school — the dropout or the graduate — to continue to learn, to up-grade his job and retrain when his old job is discontinued. And, it is to contribute to the development of the person's individual worth and dignity.

The Program

The need for vocational instruction in the public schools to meet the skilled manpower requirements of the nation was brought into sharp focus early in the Twentieth Century. In 1917 Congress recognized the need for federal stimulation and support of vocational education in the public schools. The value of this investment by the federal government was strongly reaffirmed by the passage of the National Vocational Education Act of 1963, which provides federal grants to states to help maintain, extend, and improve vocational education programs and to develop new programs. It is the intent of the Act that persons of all ages in all communities shall have ready access to vocational training and retraining of high quality, which is realistic for gainful employment and which also is suited to their needs, interests, and abilities.

The extent of vocational education in the high school is revealed in Table 1. In 1963 only 6 percent of the secondary schools in the U. S. offered distributive education courses; only 7 percent offered trade and industrial courses; and less than half offered courses in homemaking or vocational agriculture. Although variation occurs among states in the North Central Region, none has a very large proportion offering a complete vocational program. Even in the largest cities, less than one-fifth of the high school students were enrolled in vocational education programs although two-thirds of those completing high school will not complete four years of college.

Publications in this series are subtitled: No. 1 — Square Pegs and Round Holes; No. 2 — High Schools; No. 3 — Area Vocational Schools; No. 4 — Community and Junior Colleges; No. 5 — University Programs; and No. 6 — Business, Labor, and Other Private Programs.

Table 1 — Proportion of Secondary Schools Offering Vocational Education Programs,* Fiscal Year, 1963

	Total Public Secondary Schools	Vocational Education Programs			
		Agri.	Distrib.	Home Econ.	Trade & Industry
	(number)	(percent)			
Illinois	873	52	9	66	7
Indiana	759	39	2	63	5
Iowa	666	39	5	30	2
Kansas	604	30	3	15	6
Michigan	944	24	13	43	5
Minnesota	619	46	6	53	3
Missouri	665	38	7	48	3
Nebraska	482	27	3	27	1
North Dakota	337	19	2	34	*
Ohio	1,092	28	6	30	5
South Dakota	273	27	3	38	2
Wisconsin	588	46	*	24	5
Total U.S.	25,350	36	6	48	7

*Business and Office Education has not been federally supported in the past; hence records are not available.

*Less than one-half percent.

Source: Vocational and Technical Education, A Review of Activities in Federally Aided Programs, Fiscal Year 1963, U.S. Dept. of Health, Education and Welfare, Washington, D. C., page 37.

In the schools offering vocational education, students who participate in the program devote a portion of their day to vocational education courses. The balance — usually over half the school day — is devoted to subjects such as English, history, mathematics and sciences. The vocational training includes applied science courses in the technology of the occupation. Shop, laboratory, technical instruction and actual on the job work experience are also provided. Electronics, printing, cosmetology, horticulture, home aide, and data processing are examples of subject matter studied.

By combining the academic and vocational courses, the student is provided with the competence needed to begin a job and the background needed for continuing his education throughout life. Upon graduation from high school, the student can seek a job, take additional vocational and technical training, or go to college.

The student is enrolled in the high school and participates in extra curricular activities the same as any other student. All of the student's courses are generally taught in the school, although in some cases a school may send its students to another high school or training center for their vocational courses. When this is done, the student remains a member of his home high school. He is just transported to the vocational center for selected courses.

The idea of this cooperation, which is evolving in many states, is to provide specialized training beyond the resources of a single district in the skills needed by the industries and businesses of the state and to offer it within commuting distance for all the people. It also is a means of grouping enough students to justify specialized courses.

Many occupations representing a cross section of the world of work not requiring a baccalaureate degree are served by high school vocational education programs. They are usually grouped into six general areas for administrative purposes, but there is close cooperation among all. These primary subject matter areas include: (a) trade and industrial education, (b) home economics education, (c) distributive education, (d) agricultural education, (e) business and office education and (f) practical arts.

In addition to high school classes, the above programs service adults, dropouts, and graduates through evening and special classes. In some states a two year post-high school program is available for the students who want to continue their occupational training or elect a new occupational training program.

Trade and Industrial Education

Job areas served by the trade and industrial education program have no rigid boundaries. The program includes training in both skilled and semi-skilled occupations relating to all phases of industrial design, processing, production and maintenance as well as to the service occupations. It covers all jobs in these areas so long as the job is not specifically covered under one of the other vocational programs. Electronics, auto mechanics, commercial art, and cosmetology are examples of jobs served by the program.

The program is designed for persons over 14 years of age whether they are in school or out of school and employed, underemployed, or unemployed. In-school youth spend up to one-half their time with vocational courses. Adults and out-of-school youth often take short-term intensive training to up-grade their skills.

Vocational Agricultural Education

The agricultural education program is designed to develop competence for employment in farming and agri-business. Currently for each person being trained for farming, two or three need to be trained for agri-business.

A high school student usually devotes at least an hour a day to his agricultural education courses for the first year. In succeeding years, classes may meet for longer periods depending on the nature of the program. The remainder and majority of the school day is devoted to academic courses. Supervised work in an agricultural business or farming provides opportunity for students to secure additional experience and apply principles learned in the classroom.

A broad range of programs for out-of-school youth and adults, generally offered on a part-time or evening basis, are directed toward improving occupational proficiency. Two-year technician programs are being established in a number of states.

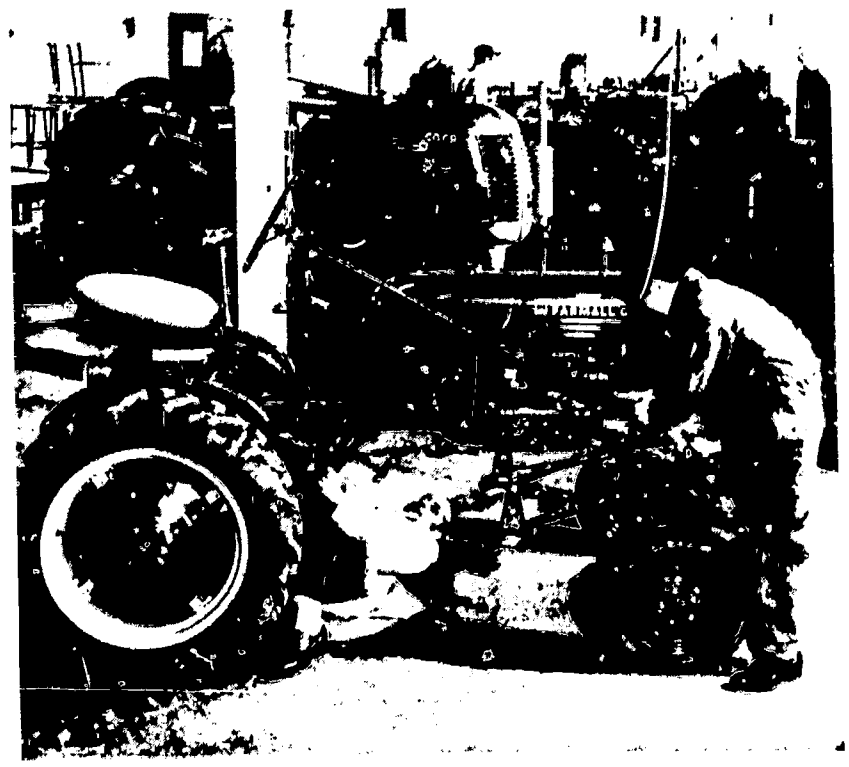

Fig. 1 — Tractor operation and maintenance is an important phase of high school vocational agricultural training.

Home Economics Education

The home economics programs for in-school youth and for out-of-school youth and adults are based on the student's needs and include both organized classwork and supervised projects in the individual's home. Many phases of home economics are studied, such as: home management, family health, child care, nutrition, clothing, money management and home improvement. These programs increase skills for wage earning occupations in home economics and contribute to the quality and development of the individual's family life. Recently increased emphasis has been given to preparing for wage earning occupations such as: nursing and rest home aides, clothing service workers and food technicians.

Distributive Education

Distributive education is largely related to principles and practices of marketing and distributing goods and services. It is a cooperative school-work program in which students receive career training both in the classroom and in supervised work "on the job." During their senior year, students in the program must have a distributive job marketing or merchandising goods or services. Such occupations are found in retailing, wholesaling, storing, financing, manufacturing, and similar types of businesses.

The out-of-school youth and adult program provides instruction for sales and sales-supporting employees, junior and middle-management executives, and for managers and owners of businesses in which the marketing function is significant.

The curricula for those out-of-school are specialized and geared to the needs of some particular kind of distributive business. For example, programs have been developed to up-grade or train individuals for employment in restaurants, hotels, retail stores, real estate and insurance offices. Some of the courses are applicable to several different kinds of business such as those in advertising, small business management, sales management and supervisory training.

Business and Office Education

The business and office education program is designed to train and develop the maximum potential and skills necessary for office work. The curriculum often includes courses in typing, shorthand, bookkeeping, data processing, business organization and management.

Students who participate in this program spend one-third to one-half of their time in the 10th, 11th, and 12th grades taking vocational business courses. However, it has been suggested that low-ability students and potential dropouts take at least one vocational course in the 9th grade. This could add additional interest to their program and encourage them to stay in school.

Practical Arts

Industrial arts, commercial subjects, and similar courses complement and contribute to effective vocational education. These courses are generally designed to provide students with broad exploratory experiences and training in the world of work and to help them develop understanding and abilities that are needed for effective citizenship.

Important Considerations

In order to determine the role that vocational education should play in your high school, you should analyze its programs in depth. You should determine how well these programs meet the occupational training needs in your community compared with alternative training programs.

The following factual information should help in the analysis. The criteria that each of us use will be a little different, and we will not all place the same relative emphasis on each factor. The situation will vary with the community. However, experience indicates that each of the following factors is important to some and that these are factors frequently considered when evaluating an occupational training program. Although the list is long, it is not all inclusive, so you may want to consider others.

With a thorough understanding of these factors as they relate to the alternative programs, your community will be much more likely to decide the best course of action for meeting its occupational training needs.

Curriculum Limitations

The high school vocational program is based on the idea of providing students with a balanced education. It combines practical vocational training with academic education to produce employable graduates. It allows those who do not plan to go to college or take post-high school training the opportunity to learn a marketable skill while in school. It provides the student with a sense of accomplishment and dignity. For the potential dropout this can be an important factor and it may be sufficient to inspire him to remain in school and become employable. Some programs combine employment with schooling.

Except in the largest schools, the number of different jobs for which training can be offered is generally limited. Instructors, specialized equipment, and the number of students interested in an occupational area are among the limiting factors.

Can Adjust as Necessary but Sometimes Don't

In theory, vocational education curricula and instructional materials can adjust quickly as occupations and teaching methods change. The instructors are generally in frequent contact with employers. Also the school is responsible for developing and updating its own program. In practice, however, adjustments are sometimes slow. New equipment is expensive and there is a hesitancy to abandon a working program.

High school vocational programs have to be concerned with changing technology, but the need for change is lessened since they stress the fundamental elements of occupational areas which change less rapidly than the highly specialized skills taught through advanced vocational programs.

Existing Facilities Often Adequate

Physical facilities within the high school are generally available for some occupational training under each of the programs. Where not available, districts can frequently secure space elsewhere. Utilization of cooperating high schools, area centers, junior colleges, or industrial facilities is often possible.

Local Control

In considering occupational training alternatives, communities should determine how the training program will be administered and whether it can be accomplished through existing educational channels. The vocational programs described in this leaflet are controlled by local school boards and administrators. Presumably this makes the programs more responsive to current and local needs. State departments of education and universities will consult with com-

munities in developing effective programs of vocational education. The department is also responsible for assuring that minimal education standards are met.

Costs Relatively Low and Shared

The federal government paid 18 percent of the direct operating cost of the high school federally assisted vocational programs in 1963. The state furnished about 36 percent of the funds and the local school district about 46 percent. This varies widely among states as shown in Table 2. In the North Central region the federal share varied from 18 percent in Minnesota to 31 percent in South Dakota. The state's share varied from 4 to 44 percent and the local share from 34 to 67 percent. In addition, the state and local district furnished the buildings, equipment and administrative overhead. Most high school vocational programs receive some federal support although some schools have developed additional vocational programs on their own. Since an increasing share of our youth are being trained for employment outside of the local community, serious consideration is being given to providing more state and federal assistance for vocational education.

Table 2 — Expenditures for Vocational Education, by Source of Funds, Fiscal Year, 1963.

	Total All Sources	Percent from Each Source		
		Federal	State	Local
	(million)		(percent)	
Illinois	$ 11.6	19	25	56
Indiana	6.4	21	12	67
Iowa	5.1	28	22	50
Kansas	3.0	24	13	63
Michigan	9.2	23	13	64
Minnesota	7.6	18	40	42
Missouri	5.6	24	15	61
Nebraska	2.1	29	13	58
North Dakota	1.7	26	27	47
Ohio	10.7	22	44	34
South Dakota	1.1	31	4	65
Wisconsin	7.1	23	14	63
Total U.S.	308.9	18	36	46

Source: Vocational and Technical Education, A Review of Activities in Federally Aided Programs, Fiscal Year 1963, U.S. Dept. of Health, Education and Welfare, Washington, D. C., page 39.

Programs Vary with Size

In general it is not practical for a high school of less than 500 students to provide all specialized personnel and facilities required for a complete series of vocational education courses. High schools with much larger enrollments are necessary to provide a complete vocational program; approximately 2,000 students are usually required. Cooperation with other high schools or training centers can sometimes be arranged to offer vocational education to students in small high schools.

Program Offers Guidance and Flexibility

Recently there has been a distinct trend toward providing more adequate and effective counseling. The guidance program provides the student with cumulative evidence about his abilities and aptitudes; information about education and occupational opportunities; and assistance in deciding the next step in his career. The program offers the student assistance in knowing himself and aids in solving his problems.

The first vocational courses are usually introductory and assist the student in choosing a particular field, for example, auto mechanics. As the student takes additional courses and becomes more aware of his capabilities and the opportunities available, he may find that he wants to train for a different job. During the first year or two he could transfer. Hence, flexibility exists for the student to explore the various areas before he finally decides which marketable skills to develop.

Placement Service

Through individual counseling, students are stimulated to make plans and prepare for employment long before graduation. This encourages them to use their initiative and to become self-directing. This doesn't, however, reduce the need for a systematic solicitation of job opportunities and frequent contact between instructors and employers. Employers are glad to cooperate since they are anxious to hire reliable individuals with the necessary skills. Students in the cooperative school-work programs often continue to work for the same firm after graduation.

Prestige Being Earned

In early years the grade level at which some vocational programs were offered and the intellectual level of the student enrolled were below the standards of the academic programs of the high school. Students who failed in academic programs were assigned to vocational curricula. Thus the program had little prestige.

Today vocational education in some schools still faces low prestige. However, in many others it commands respect equal to that of the college preparatory course. It is a matter of earning acceptance through adequate and effective programs. Recognition that all students need not and cannot prepare for college, that the proportion of unskilled jobs is declining and that employers are demanding the vocationally skilled all emphasize the need for vocational education and are enhancing its prestige.

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